Washington State Department of Transportation

**RFI**

# *State of Washington*
# *Department of Transportation*
# *Notice to Consultants*
# *Request for Ideas*

## Overview

On May 9, 2005, the Governor signed into law the "2005 Transportation Partnership Funding Package." Included in this major funding package is $7.1 billion to be expended for highways, ferries and other multi-modal projects over the next 16 years. This funding package was in addition to the 2003 Transportation Funding Package (Nickel Program) that was enacted in the spring of 2003. The Nickel Program added $4.2 billion over 10 years to be expended for highways, ferries and other multi-modal projects. Other funding in place prior to these two packages provides approximately $4 billion for highway construction over the next 10 years. The number of projects represented by just the 2005 and 2003 funding package represents over 400 transportation projects. State highway related construction projects specifically related to the 2005 Transportation Partnership Funding Package include:

- At-Risk structures – $2.98B for 30 projects including the Alaskan Way Viaduct, SR 520 floating bridge, other bridge replacements and seismic retrofits.
- Safety Investments – $279M for 106 projects including the addition of passing lanes, grade separations, intersection improvements and barrier separation of opposing traffic.
- Environmental – $108M for 21 projects, plus funding for future fish barrier removal projects as well as stormwater retrofit, noise mitigation and fixes of chronic environmental problems such as stream bank erosion.
- State Freight Projects – $414.8M for 4 projects including widening I-90 at Snoqualmie Pass to address avalanche closures and restore wildlife connectivity.
- Choke Points and Congestion – $2.95B for 69 projects including widening I-405, HOV lane construction on SR 167 and I-5 in Tacoma, and other significant projects throughout the State.

Washington State's transportation program is one of the largest in the country and will need the benefit of national and international expertise in program management. As WSDOT moves ahead in the delivery of the program, it is interested in hearing from our industry partners on ideas for program management, project delivery and reporting.

## Goals

WSDOT is committed to continuing the focus on accountability, open communication and on-time, on-budget delivery that was enhanced for the 2003 Transportation Funding Package (Nickel Program). WSDOT does not intend to add significant staff to deliver the new program but desires to maintain its core expertise, technical capabilities, and grow future project managers and team leaders through "on the job" training on challenging projects. WSDOT also believes that a strong owner role is necessary under any program delivery model.

## Program Management Models

WSDOT is organized around a Headquarters Office and seven Regions. The Headquarters Office provides technical expertise including bridge and geotechnical design and materials

testing. The Headquarters Office also provides some approval authorities, standards development and overall project budget and schedule monitoring, change management and reporting. Each of the seven Regions has the day-to-day responsibility for all phases of project delivery including schedule, cost control and reporting. Non-traditional delivery models are currently being used with design/build on the Tacoma Narrows Bridge, I-5 Everett HOV and I-405 projects. A General Engineering Consultant (GEC) team provides a significant portion of the design and construction services for the I-405 corridor projects.

While WSDOT believes that successful project management requires that we maintain a strong owner role, we also recognize that it will be difficult to recruit enough qualified project managers as necessary to manage consultant teams engaged in the delivery of many of the projects. Therefore, WSDOT is considering engaging a consultant Project Management Team to assume responsibility for significant portions of delivery of a select group of projects. Reporting to a single WSDOT delivery team, the PM would engage other consultants as necessary to complete scoping, design, environmental, permitting, right of way and construction services.

Questions to consider:

- What are the advantages and disadvantages of such an arrangement?
- How can a PM best supplement WSDOT's core expertise?
- What projects or groups of projects lend themselves to a PM delivery model (corridors, such as SR-9; large projects only, such as greater than $100 million; projects by type, such as seismic retrofit)?
    - Urban Corridors Office is considering these corridors for added program management support:
        - Alaskan Way Viaduct – an independent Program Manager/Construction Manager consultant in addition to Design Consultants;
        - SR 167 – a General Engineering Consultant for program management and design/construction activities; and
        - SR 520 – program management support tasks with a co-located WSDOT team.
- Assuming that projects are located in more than one WSDOT Region, how should the PM team relate to the local WSDOT Region staff?
- How should a PM team relate to WSDOT's external partners, such as FHWA and environmental resource agencies?
- How would the PM team fit into WSDOT's reporting requirements to the Legislature and Transportation Commission?
- The 2005 Transportation Partnership Funding Package also gave the State Auditor authority to conduct "performance audits" of WSDOT. How, if at all, should a PM be involved in audits of project or program performance?

**Project Control and Reporting Functions**

The Project Control and Reporting (PC&R) Office is a part of the Headquarters oversight of all WSDOT capital programs through monitoring, controlling and reporting on status of scope, schedule and budget for each project. The PC&R office establishes and executes procedures for authorization of work order expenditures and review and approval of project changes in scope,

schedule or expenditures. A key focus of this effort is the quarterly meetings of the WSDOT Executive Review Board with program managers and project engineers for all WSDOT capital programs and projects. The quarterly meetings are held to review project performance and provide early senior management direction to address project issues and problems as they develop. The intent is to foster a "no surprises" culture with all project engineers. The PC&R Office also has responsibility for the compilation and reporting on program and project delivery for all modes on a quarterly basis to the Legislature, the Transportation Commission and other external stakeholders. This quarterly reporting is currently done through the Gray Notebook, Gantt Charts showing major milestones by project, web based project descriptions, quarterly project reports, and a written Summary of Adjustments detailing project expenditure and milestone changes. The PC&R also coordinates requests for approvals of certain project changes to the Transportation Commission and the Legislature.

WSDOT currently relies on legacy mainframe computer systems to manage the capital construction programs. These systems include the Capital Program Management System (CPMS) that was developed in the 1980's as a program management tool with a focus towards the budget development process. CPMS uses antiquated programming language and was not designed with the features to track, analyze or report the delivery of individual projects as line items. This system is linked to, and relies on, the TRAINS legacy mainframe accounting system to track program and project expenditures. Both require multiple software applications and data management processes to perform project analysis and tracking.

Current project management software used by WSDOT is the Project Delivery Information System (PDIS) that operates using the PS8 scheduling tool developed by Scitor Corporation. One challenge is that PDIS and CPMS do not integrate together. The proprietary file structure of PS8 does not allow data to upload to CPMS directly. Changes to a project schedule and the resulting impacts to aging of project funds made in PDIS do not automatically update to CPMS. The resulting impact requires a manual interface taking schedule information developed from PDIS to update CPMS. This current process is time consuming and inefficient, and introduces errors into the analysis and reporting processes.

Another shortcoming of PDIS is that it cannot provide individual project managers with real-time expenditure information, nor can it automatically determine the earned value of a project. An objective of this system should be to provide project managers with an early warning of potential schedule and budget problems. This can then be tied to risk assessment and prioritizing resources to maintain scope, schedule, and budget.

During the quarterly review process and at other key decision points throughout the life of a project, the individual project managers are expected to communicate the delivery status of their projects. This status reporting includes schedule, cost, forecasted cost to complete, and risk factors and their potential impact to the delivery of a project. This information is used for both internal management decisions and compiled for developing external reports.

Current systems do not readily avail themselves to providing this data and information to the project managers without significant manipulation and manual efforts to equate project status to overall budget status (legislative line-item appropriation.) Some regions have developed tools that can help extract the necessary information.

One region (Urban Corridors Office) along with the terminal engineering program at Washington State Ferries is using a Project Management System (P3e) that is used for project management and reporting. In addition to reporting the information listed above, project managers can also report schedule performance, cost performance and earned value (are we getting are money's worth?). This piloted system has met with some success. However, linkage to the legacy systems and equating project information to budget information still requires some degree of manual interface.

Given the challenges with these existing systems, it is also difficult to produce and maintain reporting information on the status of individual projects and programs. Each report uses a different software application, including web applications, databases and graphics programs requiring manual manipulation. The information used in these reports is gathered from the existing systems and loaded into the intermediate applications for reports. The timeliness and accuracy of these reports rely on the information that is input into the systems. Given these challenges, special care is needed to make sure that the data is validated to make sure that project status developed in PDIS accurately reflects the reports generated via CPMS and other analysis and reporting applications. Clearly, in order to manage a program of this size, WSDOT needs a new project management software system that addresses these issues either through an interface with the legacy systems or through a standalone replacement system.

WSDOT is also considering engaging a consultant Program Management Team at the Headquarters level to assist the PC&R Office in the statewide responsibilities described above. WSDOT is also interested in the PM Team helping WSDOT to evaluate its program and project management software needs and develop a replacement system.

Questions to consider:

- How can a PM Team best interact with the PC&R office?
- What PM software systems might best address WSDOT's needs?
- Can a PM Team expand the role of the PC&R Office to interact with the project staff on a more frequent basis to monitor and troubleshoot project issues?
- How can a statewide Headquarter-based PM team interact with corridor or project GEC teams and other PM teams for individual projects or groups of projects?
- While working as a part of the PC&R office, can a PM Team also provide sufficient staff resources and expertise to supplement individual project staff in the field or headquarters (as needed) to address certain issues such as constructability reviews, supplemental right–of-way acquisition assistance, environmental documentation, permitting or construction administration?
- Rather than having a separate PM team only responsible for delivering a portion of the WSDOT program as described under Program Management Models above, does it make more sense to assign that role to a PM team also working in coordination with the PC&R Office?

**<u>Give WSDOT Your Advice Day</u>**

WSDOT is interested in getting advice on the issues described above from consultants who may have an interest in providing program management services to WSDOT. To best facilitate this discussion between individual firms and the WSDOT Executive Team, WSDOT has reserved

June 10 and 13, 2005, for WSDOT staff to meet with consultant firms on an individual basis at WSDOT HQ Transportation Building in Olympia, WA. The purpose of these discussions is to gather ideas so that WSDOT can make a fully informed decision on its program management approach to deliver its capital program. Future RFPs will be issued to perform the work ultimately defined by that decision.

Questions regarding this RFI should be directed to John Conrad at 360-705-7032, Don Nelson at 360-705-7101 or Greg Selstead at 360-705-7130.

Please contact WSDOT HQ Consultant Services office at 360-705-7029 to reserve a meeting time.

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